UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/644,273	08/19/2003	Jeremy John Carroll	B-5212 621174-8	5180

22879 7590 12/23/2008

HEWLETT PACKARD COMPANY
P O BOX 272400, 3404 E. HARMONY ROAD
INTELLECTUAL PROPERTY ADMINISTRATION
FORT COLLINS, CO 80527-2400

EXAMINER	
WASHBURN, DANIEL C	
ART UNIT	PAPER NUMBER
2628	

NOTIFICATION DATE	DELIVERY MODE
12/23/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

JERRY.SHORMA@HP.COM
mkraft@hp.com
ipa.mail@hp.com

Office Action Summary	Application No.	Applicant(s)	
	10/644,273	CARROLL, JEREMY JOHN	
	Examiner	Art Unit	
	DANIEL WASHBURN	2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 September 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,6,8-19,22,25,26,28-30,33 and 34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,6,8-19,22,25,26,28-30,33 and 34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 9/12/08 have been fully considered but they are not persuasive.

As to the applicant's argument that "it should be noted that where claim 1 (and other claims) refer to the first rule set:

> "ordering the representation, the plurality of blank nodes being substantially omitted from the ordering process;"

this doesn't mean that the triples (the representation of primary interest) which include blank nodes are omitted – indeed, it is important for the described embodiment discussed above that such triples are included in the ordering process. What the quoted wording is intended to mean is that in ordering the triples, blank nodes in the triples are effectively ignored (in the embodiment discussed above, the blank nodes are all labelled "~"."

the examiner contests that the features upon which applicant relies (i.e., "this doesn't mean that the triples (the representation of primary interest) which include blank nodes are omitted – indeed, it is important for the described embodiment discussed above that such triples are included in the ordering process. What the quoted wording is intended to mean is that in ordering the triples, blank nodes in the triples are effectively ignored") are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

The language "the plurality of blank nodes being substantially omitted from the ordering process" is claimed such that it covers any and all methods of ordering a

portion of the nodes in a graph while omitting other nodes from the ordering process and, in giving the claim language its broadest reasonable interpretation (see MPEP 2111 [R-5] and MPEP 2111.01 [R-5]), the examiner has found prior art (see the rejections that follow) that describes a system and method that includes omitting one or more nodes from an ordering process applied to a set of nodes.

In response to applicant's argument that there is no suggestion to combine Ryall with Hussam in such a way as to carry out the method of claim 1 in respect of an RDF graph, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the examiner has relied upon knowledge generally available to one of ordinary skill in the art at the time of the invention when determining if a rationale exists that would have led one of ordinary skill in the art to combine the cited references (see the rejections that follow).

As to the applicant's argument that "A human user using the Ryall tool to canonicalize an RDF graph is likely to effect a complete labelling of the blank nodes without (i) leaving some unlabelled and (ii) then modifying the representation of the RDF graph in respect of the unlabelled nodes (labeling a blank node is not a modification, in terms of the data represented by the RDF graph). Ryall contains no teaching about how to label blank nodes and,

in particular, nothing corresponding to the detail of the second rule set now included in amended Claim 1."

the examiner contests that (1) Ryall describes, at 3:31-32 and 4:10-21, that a user may add or change text labels of nodes on an individual basis; thus, Ryall is considered to disclose a method wherein a user can label all or a subset of the displayed nodes. The labeling method is considered to be equally applicable to nodes in general, regardless of whether or not they might be blank;

(2) labeling a node is considered one method of modifying the representation of a graph. While the applicant's specification discloses that the method for modifying the representation of the RDF graph may include deleting "hard to label" blank nodes or adding triples to the "hard to label" blank nodes, the claim language is not limited in this manner. Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993); and

(3) Ryall is not relied upon to describe the newly added limitations of the second rule set of amended claim 1; thus, this argument is considered moot.

Finally, as to the applicant's argument that "Another fact which the examiner glosses over is that the method of claim 1 requires certain steps to be carried out in sequence. Thus, claim 1 requires:

- "ordering the representation, the plurality of blank nodes being substantially omitted from the ordering process";
- Labelling a number of blank nodes;

- Modifying the remaining, unlabelled, blank nodes; and
- Re-ordering the presentation

While this application of steps couple be carried out using the Ryall tool with the aid of the present disclosure, there is not teaching in Ryall about preceding in this manner. A human using the Ryall tool would, for example, label the blank nodes before using the node sequencing feature of Ryall."

the examiner contests that Ryall describes a system wherein (1) a user is able to order a plurality of nodes, while omitting one or more other nodes from the ordering process (3:14-27),

(2) a user is then able to label a one or more of a number of nodes (2:31-32, 4:10-21, and 5:17-26),

(3) a user can continue to labeling nodes by modifying one or more of the remaining unlabelled nodes (2:31-32, 4:10-21, and 5:17-26), and

(4) a user can then re-order the presentation after nodes have been labeled (3:14-27 and 3:42-4:9).

Thus, Ryall describes a system that suggests an endless number of methods wherein the methods include some combination of ordering the nodes one or more times and labeling some or all the nodes one or more times, which is considered to include the method disclosed by applicant's claim 1.

For the above reasons, and for the reasons articulated below, the claims have not been found to be in condition for allowance.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-4, 6, 8-18, 25, 26, 28-30, 33 and 34 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Claim(s) 1-4, 6, 8-18, 25, 26, 28-30, 33 and 34 is/are rejected under 35 U.S.C. 101 as not falling within one of the four statutory categories of invention. Based on Supreme Court precedent and recent Federal Circuit decision, a statutory "process" under 35 U.S.C. 101 must (1) be tied to another statutory category (such as a particular apparatus), or (2) transform underlying subject matter (such as an article or material) to a different state or thing. The instant claim(s) neither transform underlying subject matter nor positively tie to another statutory category that accomplishes the claimed method steps, and therefore do not qualify as a statutory process.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-4, 6, 8-14, 19, 25, 26, 28-30, 33 and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hussam (US 2003/0050927) in view of Ryall et al. (US 6,774,899), and further in view of O'Neil et al. (US 6,889,226).

RE claims 1, 19, and 34, Hussam describes a system, method, and computer program stored on a computer readable medium for creating an RDF graph with a plurality of blank nodes (0093-0101 describes that RDF models can be represented graphically using node and arc diagrams, as illustrated in Figure 2. Further, 0100-0101 and Figure 4 describe a node that doesn't have a URI associated with it. Hussam describes that such nodes are referred to as anonymous (or blank) nodes. Thus, Hussam describes creating an RDF graph with a plurality of blank nodes).

Hussam doesn't describe but Ryall describes a method and computer program stored on a computer readable medium (2:66-3:3) for processing data in a data processing system, the method comprising the steps of:

processing input data provided in the format of a data file in said data processing system (3:14-21 describes that the graph display area 110 of the user interface 100 displays the nodes and edges of a graph, where the graph information is stored in the memory 20 and processed by the CPU 10)

in accordance with a first set of rules, which operate in said data processing system to define a stage at which such a processing operation ceases (3:21-4:9 describes that a user may select one or more nodes on the displayed graph and apply one or more visual organization features (VOFs) to the selected nodes. The VOFs include sequential placement, clustering, zoning, T-shaped constraints, alignment, even spacing, symmetry, and a hub shaped design. Applying the VOFs to selected nodes is considered processing the selected nodes in accordance with a first set of rules, which

operate until the selected nodes are re-ordered, at which point the system ceases processing);

applying to the partly-processed data a second set of rules, which operate in said data processing system to modify the data, so that the modified data may be processed in accordance with a third set of rules (3:31-32 and 4:10-21 describes that selection button 143 is used for adding or changing text labels on the nodes, thus the user adding or changing text labels on the nodes is considered modifying the data according to a second set of rules, where the modified data may be processed with a third set of rules (e.g., applying one or more VOFs to the modified nodes))

and then outputted as a output data file from said processing system (3:10-13 describes that a printer 60 may be connected to the CPU in order to make a hard copy of the graph when complete. Further, 2:66-3:1 and 3:19-21 describes that the memory 20 stores previous graphs that have been manipulated by the user, which inherently implies that a user is able to save an altered graph to memory 20. Thus, the system outputting a graph to the printer 60 or the memory 20 is considered outputting the modified graph from the processing system),

wherein the method is used to canonicalize a graph expressed as said input data, the graph having a plurality of nodes (3:14-4:21 describes canonicalizing a graph using one or more VOFs),

wherein the processing in accordance with the first set of rules include generating a representation of the graph and ordering the representation, the plurality of nodes being substantially omitted from the ordering process (3:14-4:21 describes

selecting one or more nodes on the graph and applying one or more VOFs to the selected nodes. Applying one or more VOFs (e.g., sequentially order nodes or arrange nodes in a T-shape layout) to one or more selected nodes is considered ordering the representation of a generated graph, wherein a plurality of nodes (i.e., the nodes that weren't selected) are omitted from the ordering process);

wherein the processing in accordance with the second set of rules operates to modify the representation of the graph in respect of nodes that remain unlabelled (3:31-32 and 4:10-21 describes that a user can use selection button 143 to add or change text labels on the nodes, which is considered modifying the representation of the graph in respect of nodes that remain unlabelled, as the user writes a description into the nodes that he selects for editing); and

wherein the processing in accordance with the third set of rules includes reordering the representation, the reordered representation comprising the output data (3:14-4:21 describes that after a user has added labels to the nodes the user can apply one or more VOFs to the nodes, where the VOFs are considered to reorder the representation. Further, 3:11-13 describes that a printer 60 may be connected to the CPU in order to make a hard copy of the graph when complete; thus, the reordered presentation comprises the output data).

Ryall doesn't explicitly describe blank nodes; however, if Hussam is modified to include the graph manipulation system described in Ryall then the graph manipulation system described in Ryall would be used to apply VOFs and node labels to the RDF

graph disclosed in Hussam. Thus, the combination is considered to suggest a system and method wherein

the method is used to canonicalize an RDF graph expressed as said input data, the RDF graph having a plurality of blank nodes (0101 of Hussam describes anonymous nodes),

wherein the processing in accordance with the first set of rules include generating a representation of the RDF graph and ordering the representation, the plurality of blank nodes being substantially omitted from the ordering process (Ryall describes that specific nodes can be selected in order to apply VOFs to the selected nodes (see above), thus, given the teachings of Hussam that some RDF nodes a blank nodes, a user is considered to be able to omit blank nodes from the selection of nodes);

wherein the processing in accordance with the second set of rules operates to modify the representation of the RDF graph in respect of blank nodes that remain unlabelled (Ryall describes adding labels to nodes (see above), thus, given the teachings of Hussam that some RDF nodes are blank nodes, a user is considered to be able to modify the representation of the RDF graph in respect of the blank nodes that remain unlabelled); and

wherein the processing in accordance with the third set of rules includes reordering the representation, the reordered representation comprising the output data (once again, Ryall describes that specific nodes (which may include all the nodes) can be selected in order to apply VOFs to the selected nodes (see above)).

All the above-described elements of claims 1, 19, and 34 are known in Hussam in view of Ryall, the only difference is the combination of known elements into a single system and method.

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to include in Hussam the system and method of processing data in a data processing system, the method comprising the steps of:

processing input data provided in the format of a data file in said data processing system in accordance with a first set of rules, which operate in said data processing system to define a stage at which such a processing operation ceases;

applying to the partly-processed data a second set of rules, which operate in said data processing system to modify the data, so that the modified data may be processed in accordance with a third set of rules and then outputted as a output data file from said data processing system, wherein the method is used to canonicalize an RDF graph expressed as said input data, the RDF graph having a plurality of blank nodes,

wherein the processing in accordance with first set of rules include generating a representation of the RDF graph and ordering the representation, the plurality of blank nodes being substantially omitted from the ordering process;

wherein the processing in accordance with the second set of rules operates to modify the representation of the RDF graph in respect of blank nodes that remain unlabelled; and

wherein the processing in accordance with the third set of rules includes reordering the representation, the reordered representation comprising the output data,

as suggested by Ryall, as the additional functionality of manipulating the RDF graph in order to make it more visually organized and thus easier to understand doesn't change the basic structure and relationships of the elements that make up the RDF graph, and it could be used to achieve the predictable result of allowing a user to quickly and easily make modifications to the graph without requiring the user to manually adjust the position of each node when (1) changing the overall ordering of the graph or (2) rebalancing the graph to make it easier to understand.

Hussam in view of Ryall doesn't describe but O'Neil describes processing in accordance with a first set of rules that includes assigning a different respective label to those nodes that are determined, by a limited examination around each node, to be distinguishable from the other nodes by their respective connected features of the graph, the assignment of the labels to these nodes being based on an ordering dependent on the connected features that distinguish them (1:38-65 "The present invention provides a technique for representing hierarchical data in a non-hierarchical data structure…This structure may be captured with a position-identifier scheme referred to herein as "ORDPATH." A position-identifier is a label associated with each node represented in hierarchical data. The position identifier captures position information about the node that represents both the level in the hierarchy at which the node appears, as well as the node's relationship to its ancestors and descendants." … 6:9-27 "FIG. 3 shows a tree data structure 300 that represents the hierarchically-organized data 200 depicted in FIG. 2. Tree 300 comprises a plurality of nodes 302-314." … 6:48-7:55 "Each node in tree 300 is assigned a position identifier 325 referred

to as an “ORDPATH.” Position identifiers 325 represent both the hierarchical and left-to-right position in tree 300 of a given node. That is, given the position identifiers 325 of any two nodes in tree 300, it is possible to determine whether one of the nodes is an ancestor (or descendent) of the other, and, if so, how many "generations" or "levels" separate the nodes. Moreover, it is possible to determine which of the nodes appears to the left (or right) or the other. The “ORDPATH” shown in FIG. 3 is an exemplary numbering scheme for position identifiers 325.”).

O’Neil doesn’t explicitly describe working with blank nodes; however, if Hussam is modified to include the graph manipulation system described in Ryall in view of O’Neil then the graph labeling system described in O’Neil would be used to apply the disclosed labeling scheme to the RDF graph disclosed in Hussam. Thus, the combination is considered to suggest a system and method wherein processing in accordance with a first set of rules further includes assigning a different respective label to those blank nodes that are determined, by a limited examination around each node, to be distinguishable from the other blank nodes by their respective connected features of the graph, the assignment of the labels to these blank nodes being based on an ordering dependent on the connected features that distinguish them.

All the elements of claims 1, 19, and 34 are known in Hussam, Ryall, and O'Neil, the only difference is the combination of known elements into a single system and method.

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to include in Hussam and Ryall the system and method wherein

processing in accordance with a first set of rules further includes assigning a different respective label to those blank nodes that are determined, by a limited examination around each node, to be distinguishable from the other blank nodes by their respective connected features of the graph, the assignment of the labels to these blank nodes being based on an ordering dependent on the connected features that distinguish them, as suggested by O'Neil, as this doesn't change the overall operation of the system disclosed in Hussam in view of Ryall, and it could be used to achieve the predictable result of allowing a user to quickly and easily determine the relationships among nodes, based on the applied hierarchical numbering scheme, such that patterns, similarities, and groupings among nodes can be established quickly and accurately (O'Neil 1:14-35).

RE claim 2, Hussam doesn't describe but Ryall describes a method according to claim 1 wherein the first and third sets of rules are the same (3:14-4:21 describes the VOFs, which are the first and third sets of rules, as described above). See the rejection of claim 1 for rationale to combine Ryall with Hussam.

RE claim 3, Hussam doesn't describe but Ryall describes a method according to claim 1 wherein the modification in accordance with the second set of rules modifies the data (3:31-32 and 4:10-21 describes that a user can add or change the text labels on nodes (second set of rules) using selection button 143). See the rejection of claim 1 for rationale to combine Ryall with Hussam.

RE claim 4, Hussam doesn't describe but Ryall describes a method according to claim 3 wherein the first and third set of rules reorder the data, but do not otherwise

modify the data (3:14-4:21 describes that the VOFs are used to reorder the data, but do not otherwise modify the data). See the rejection of claim 1 for rationale to combine Ryall with Hussam.

RE claim 6, Hussam describes a method according to claim 5 wherein the input data is a text file describing an RDF graph (0094-0104 describes that the input data is an XML file that describes an RDF graph).

RE claim 8, Hussam doesn't describe but Ryall describes a method according to claim 3 wherein the modifications include the deletion of deterministic data (3:34 describes selection button 145, which is used to delete nodes). See the rejection of claim 1 for rationale to combine Ryall with Hussam.

RE claim 9, Hussam doesn't describe but Ryall describes a method according to claim 3 wherein the modifications include the addition of deterministic data (3:31-32 describes that a user can add or change text labels on nodes). See the rejection of claim 1 for rationale to combine Ryall with Hussam.

RE claim 10, Hussam doesn't describe but Ryall describes a method according to claim 9 wherein the additions are distinguishable from data which is, prior to performance of any modifications, deterministic (3:31-32 and 4:10-21 describes that a user can add or modify labels on nodes, the new labels are considered distinguishable from the old labels). See the rejection of claim 1 for rationale to combine Ryall with Hussam.

RE claim 11, Hussam describes a method according to claim 1 wherein the data describes an ontology (0093-0104 describes that the RDF triples (i.e., resource, property type, and value) describe an ontology).

RE claim 12, Hussam doesn't describe but Ryall describes a method according to claim 1 further comprising the step of processing the data in accordance with the third set of rules (3:14-4:21 describes that the VOFs can be applied to any or all nodes, which is considered to include nodes that have been modified by a user). See the rejection of claim 1 for rationale to combine Ryall with Hussam.

RE claim 13, Hussam describes a method according to claim 12, further comprising the step of writing or verifying a digital signature establishing authenticity of the data (0103-0104 describes that RDF also provides digital signatures that will be key to building the 'Web of Trust' for electronic commerce, collaboration and other applications).

Hussam doesn't describe that the step of writing or verifying the digital signature is subsequent to the processing of the data in accordance with the third set of rules.

However, given that Ryall describes manipulating the layout of a graph, such as an RDF graph (as suggested by Hussam in view of Ryall), and the verification of the digital signature is designed to determine the authenticity of received data, it would have been obvious to one of ordinary skill in the art at the time of the invention to include in Hussam in view of Ryall the system and method wherein the step of writing or verifying the digital signature is subsequent to the processing of the data in accordance with the third set of rules, as this doesn't change the overall operation of either system, and it

could be used to achieve the predictable result of creating an RDF graph with a specific layout, as controlled by the VOFs described in Ryall, and then creating and including a digital signature with the RDF graph, in order to allow recipients of the RDF graph to verify its authenticity.

RE claim 14, Hussam doesn't describe but Ryall describes a method according to claim 1 wherein reapplying the method of claim 1 to data processed in accordance with such a method does not result in any further modification of the data (the rejection of claim 1 describes applying VOFs to a selected subset of nodes, labeling nodes that weren't involved in the manipulation by the VOFs, and then applying VOFs to all the nodes, as supported by 3:14-4:21. Thus, if these steps are repeated for a graph that has already been processed in this manner, then the process will not result in any further modification of the data). See the rejection of claim 1 for rationale to combine Ryall with Hussam.

RE claim 25 Hussam describes a method of signing an RDF graph comprising the steps of generating a signature in the form of a triple (0103-0104 describes that resource description communities require the ability to record certain things about certain kinds of resources. For example, in describing bibliographic resources, it is common to use descriptive attributes such as 'author', 'title', and 'subject'. For digital certification, attributes (considered to be included as part of one or more triples) such as 'checksum' and 'authorization' are often required). The remaining limitations in claim 25 are identical in scope to the limitations addressed in the rejection of claims 1 and 19; thus, they have already been addressed in the office action.

RE claim 26, Hussam describes a method according to claim 25 further comprising the step of including the signature triple with other triples of the graph (0103-0104 describes triples with attributes such as 'checksum' and 'authorization'; thus, the signature triple is considered to be included with other triples in the graph).

RE claim 28, Hussam describes an RDF graph that includes blank nodes (0096-0101).

Hussam doesn't describe but Ryall describes a method according to claim 1, wherein the modification of the nodes comprises deleting said nodes (3:34 describes that selection button 145 is used to delete nodes).

Given that Hussam discloses a system and method for creating an RDF graph that includes blank nodes, and Ryall describes a system and method for manipulating graphs, which includes deleting nodes, the combination is considered to suggest a method according to claim 1, wherein the modification of the unlabelled blank nodes comprises deleting said blank nodes. See the rejection of claim 1 for rationale to combine Ryall with Hussam.

RE claim 29, Hussam describes an RDF graph that includes blank nodes (0096-0101).

Hussam doesn't describe but Ryall describes a method according to claim 1, wherein the modification of the nodes comprises adding data to said representation such that the remaining nodes can be labelled and labelling said nodes accordingly (3:31-32 describes that selection button 143 is used for adding or changing text labels on nodes. Also see 4:10-21 and 5:17-26).

Given that Hussam discloses a system and method for creating an RDF graph that includes blank nodes, and Ryall describes a system and method for labeling nodes on a graph, the combination is considered to suggest a method according to claim 1, wherein the modification of the unlabelled blank nodes comprises adding data to said representation such that the remaining unlabelled blank nodes can be labelled and labelling said blank nodes accordingly. See the rejection of claim 1 for rationale to combine Ryall with Hussam.

RE claim 30, Hussam describes a method according to claim 1 wherein the representation is an N-Triple document (0096 describes that RDF is based on a mathematical model that provides a mechanism for grouping together sets of very simple metadata statements known as triples).

Hussam doesn't describe but Ryall describes that the ordering is in a lexicographic ordering (3:42-49 describes that one of the VOFs places the nodes in sequential order). See the rejection of claim 1 for rationale to combine Ryall with Hussam.

RE claim 33, see the corresponding limitation in the rejection of claim 1, as it is similar in scope.

Claims 15-18 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hussam (US 2003/0050927) in view of Ryall et al. (US 6,774,899).

RE claims 15 and 22, Hussam describes a system, method, and computer program stored on a computer readable medium that cause the computer to canonicalize an RDF graph having a plurality of blank nodes by: generating a

representation corresponding to the RDF graph (0093-0101 describes that RDF models can be represented graphically using node and arc diagrams, as illustrated in Figure 2. Further, 0100-0101 and Figure 4 describe a node that doesn't have a URI associated with it. Hussam describes that such nodes are referred to as anonymous (or blank) nodes. Thus, Hussam describes creating an RDF graph with a plurality of blank nodes).

Hussam doesn't describe but Ryall describes a method and computer program stored on a computer readable medium (2:66-3:3) for processing data in a data processing system, the method comprising the steps of:

generating a representation corresponding to a graph and ordering the representation, a plurality of nodes being substantially omitted from the ordering process (3:14-4:21 describes selecting one or more nodes on the graph and applying one or more VOFs to the selected nodes. Applying one or more VOFs (e.g., sequentially order nodes or arrange nodes in a T-shape layout) to one or more selected nodes is considered ordering the representation of a generated graph, wherein a plurality of nodes (i.e., the nodes that weren't selected) are omitted from the ordering process);

assigning a different respective label to each of a number of the plurality of nodes (3:31-32 and 4:10-21 describes that a user can use selection button 143 to add or change text labels on the nodes, which is considered assigning a different respective label to each of a number of the plurality of nodes, as the user writes a description into the nodes that he selects for editing);

modifying the portion of the nodes remaining unlabelled (3:31-32 and 4:10-21 describes that a user can use selection button 143 to add or change text labels on the nodes, which is considered modifying the representation of the graph in respect of nodes that remain unlabelled, as the user writes a description into the nodes that he selects for editing); and

reordering the representation (3:14-4:21 describes that after a user has added labels to the nodes the user can apply one or more VOFs to the nodes, where the VOFs are considered to reorder the representation).

Ryall doesn't explicitly describe blank nodes; however, if Hussam is modified to include the graph manipulation system described in Ryall then the graph manipulation system described in Ryall would be used to apply VOFs and node labels to the RDF graph disclosed in Hussam. Thus, the combination is considered to suggest a system and method as claimed.

All the elements of claims 15 and 22 are known in Hussam in view of Ryall, the only difference is the combination of known elements into a single system and method.

Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to include in Hussam the system and method comprising the steps of:

generating a representation corresponding to a graph and ordering the representation, the plurality of blank nodes being substantially omitted from the ordering process; assigning a different respective label to each of a number of the plurality of blank nodes; modifying the portion of the blank nodes remaining unlabelled; and reordering the representation, as suggested by Ryall, as the additional functionality of

manipulating the RDF graph in order to make it more visually organized and thus easier to understand doesn't change the basic structure and relationships of the elements that make up the RDF graph, and it could be used to achieve the predictable result of allowing a user to quickly and easily make modifications to the graph without requiring the user to manually adjust the position of each node when (1) changing the overall ordering of the graph or (2) rebalancing the graph to make it easier to understand.

RE claim 16, Hussam describes an RDF graph that includes blank nodes (0096-0101).

Hussam doesn't describe but Ryall describes a method according to claim 15, wherein the modification of the nodes comprises deleting said nodes (3:34 describes that selection button 145 is used to delete nodes).

Given that Hussam discloses a system and method for creating an RDF graph that includes blank nodes, and Ryall describes a system and method for manipulating graphs, which includes deleting nodes, the combination is considered to suggest a method according to claim 15, wherein the modification of the unlabelled blank nodes comprises deleting said blank nodes. See the rejection of claim 1 for rationale to combine Ryall with Hussam.

RE claim 17, Hussam describes an RDF graph that includes blank nodes (0096-0101).

Hussam doesn't describe but Ryall describes a method according to claim 15, wherein the modification of the nodes comprises adding data to said representation such that the remaining nodes can be labelled and labelling said nodes accordingly

(3:31-32 describes that selection button 143 is used for adding or changing text labels on nodes).

Given that Hussam discloses a system and method for creating an RDF graph that includes blank nodes, and Ryall describes a system and method for labeling nodes on a graph, the combination is considered to suggest a method according to claim 15, wherein the modification of the unlabelled blank nodes comprises adding data to said representation such that the remaining unlabelled blank nodes can be labelled and labelling said blank nodes accordingly. See the rejection of claim 1 for rationale to combine Ryall with Hussam.

RE claim 18, Hussam describes a method according to claim 15 wherein the representation is an N-Triple document (0096 describes that RDF is based on a mathematical model that provides a mechanism for grouping together sets of very simple metadata statements known as triples).

Hussam doesn't describe but Ryall describes that the ordering is in a lexicographic ordering (3:42-49 describes that one of the VOFs places the nodes in sequential order). See the rejection of claim 1 for rationale to combine Ryall with Hussam.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANIEL WASHBURN whose telephone number is (571)272-5551. The examiner can normally be reached on Monday through Friday 8:30 a.m. to 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ulka Chauhan can be reached on (571) 272-7782. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Dan Washburn/
Examiner, Art Unit 2628
12/6/08

/Ulka Chauhan/
Supervisory Patent Examiner, Art Unit 2628